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ABSTRACT

Chapter 5 in "The Economics of Gender in Mexico," presents a study analyzed male-female differences in earnings in rural and urban microenterprises in Mexico. Data were gathered from surveys of 1,944 households in 54 rural communities and 11,461 microenterprise owners in 34 urban areas. Findings indicate that female-headed microenterprises in urban areas earned about 50 percent of what male-headed microenterprises earned. In rural areas, that figure was about 36 percent. Differences in employment preferences, employer discriminatory behavior, and household constraints induced women into self-employment. Because household responsibilities generally had predetermined schedules, women's microenterprises were more likely to be home-based and have a lower growth rate and earnings. Female entrepreneurs aimed to complement family income; therefore they were more interested in a steady income than in high-risk, high-return activities. About 25 percent of female rural entrepreneurs had not completed any formal education compared to 11 percent of male rural entrepreneurs. About 11 percent of female urban entrepreneurs did not have formal schooling compared to 7 percent of male urban entrepreneurs. Public policy recommendations are offered for reducing unequal gender distribution of productive characteristics, including provision of broad-based formal and informal education and training programs for women, and for eliminating differential growth constraints that influence returns to productive and personal characteristics. (Contains 29 references.) (TD)

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5

# Explaining Gender Differences in Earnings in the Microenterprise Sector

*Susana M. Sánchez and José A. Pagán*

Over the last few years, the labor force participation rate of women in Mexico has substantially increased, particularly in less urban areas (Brown, Pagán, and Rodríguez 1999). In Mexico, as in other developed and developing countries, women have become active participants in the microenterprise sector through business ownership, job creation, and through their contribution to overall economic growth (Pagán and Sánchez 2000). Yet, despite considerable advances in the economic well-being of women, female-owned microenterprises earn less than those owned by men, are relatively smaller, and most belong to the services and retail trade sectors (Rhyne and Holt 1994; Cohen 1996).

Female-owned small businesses in rural and urban areas represent 26 to 44 percent of all of these firms in Mexico; nonetheless, women earn 36 to 50 percent of what their male counterparts earn. As a result of these substantial differences in employment and earnings across gender, policymakers and international organizations have begun to pay attention to the economic status of women entrepreneurs, given the role that microenterprises play in providing better employment opportunities for women, which ultimately fuels economic growth (World Bank 1994).

Male–female differences in microenterprise sector participation and earnings could arise from gender differences in domestic responsibilities and the allocation of labor to market activities across household members (see Chapters 1 and 2, this volume). Differentiated roles and responsibilities within the household have a significant impact on the acquisition of education and skills that could prove useful in the microenterprise sector, and that ultimately have an impact on employment choices across the life cycle.

Given the importance of the microenterprise sector in Mexico, the role of gender in explaining differences in earnings across microenterprise owners has become an area of interest to social scientists and policymakers. Although most countries have targeted programs devoted to microenterprise development and the promotion of small-firm formation, only recently have policymakers started to incorporate gender


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issues in the microenterprise development agenda (Wilson and Adams 1994). Researchers have recognized that effective policymaking should take into account gender roles over the life cycle, the fact that gender bias is concentrated in only some sectors, and heterogeneity in household structure (Chaves and Sánchez 2000; Parker 1995; and Correia and Katz in the introduction to this volume).

This chapter analyzes the role of gender-specific factors in explaining male-female differences in earnings in rural and urban microenterprises. It emphasizes the role of gender differences in size of operations, returns to productive factors, and the economic sector.

The determinants of gender earnings differentials are examined using the 1994 Survey of Rural Entrepreneurs and Financial Services (*Encuesta Regional de Servicios Financieros a Unidades de Producción Rural*, SREFS) and the 1992 National Survey of Urban Microenterprises (*Encuesta Nacional de Micronegocios*, ENAMIN). The results indicate that (a) gender differences in productive characteristics (including owners and businesses) are more important in explaining gender earnings differentials in rural than in urban areas, and (b) most of the gender earnings gap is explained by male–female differences in earnings within each economic sector instead of sectoral segregation. Thus, efforts to channel female entrepreneurs into sectors in which they are underrepresented would have a limited impact in increasing female earnings in the microenterprise sector.

The chapter presents a profile of microenterprises and examines male–female differences across basic descriptive statistics; investigates observable and unobservable factors that could determine gender earnings differentials in the microenterprise sector; discusses the role of the sector of economic activity on the gender earnings gap; presents the empirical methodology used to evaluate the role of inter- and intrasectoral factors in explaining gender earnings disparities, and the statistical results; analyzes gender differences in credit access; and presents a conclusion.

## Profile of Urban and Rural Microenterprises

Individual-level data from the SREFS and the ENAMIN are used to analyze gender differences in net earnings for both rural and urban areas. The SREFS was conducted in the summer of 1994 in rural areas of the states of Guanajuato, Puebla, and Veracruz. Rural areas are defined as communities with a population of 1,000 to 20,000 inhabitants, and, as such, the survey universe is composed of households residing in rural communities in these three states. Households were selected through a cluster random sampling procedure (1,944 households in 54 communities). The 1992 ENAMIN contains similar data for 11,461 microenterprise owners (that is, businesses with either less than 16 employees in the manufacturing sector

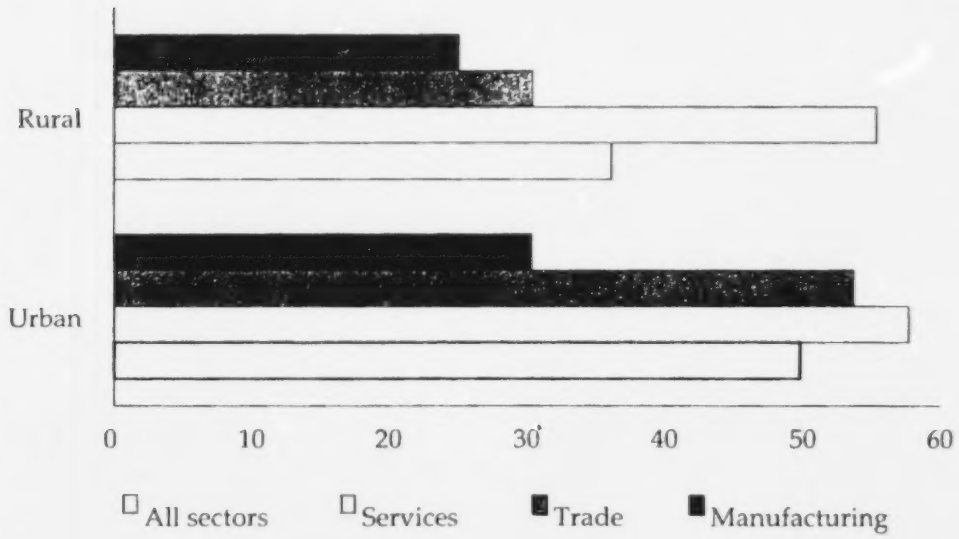
or 6 employees in all other sectors). The interviews were conducted in 34 urban areas of Mexico. Both surveys contain household demographic data and individual-level socioeconomic data for these microenterprises.

Female participation in Mexico's microenterprise sector rose dramatically during the first half of the 1990s. According to the Mexican National Employment Surveys, female representation in the microenterprise sector in localities with less than 100,000 inhabitants increased from 36 percent in 1991 to 44 percent in 1995, whereas female representation increased from 26 percent to only 29 percent in more urban areas. About 24 percent of microenteprises in urban areas and 39 percent of microenterprises in rural areas are owned by women. Nonetheless, female-headed microenterprises account for 16 percent of total sectoral earnings in urban areas and 27 percent in rural areas, and the former earn about 50 percent and the latter 36 percent of what male-headed microenterprises earn (Figure 5.1).

Tables 5.1 and 5.2 present descriptive statistics for urban and rural microenterprises, by gender. The categories presented differ across rural and urban areas given that the surveys are not strictly comparable. As such, the descriptive statistics presented attempt to capture the most

*(Text continues on page 182.)*

**Figure 5.1 Female Earning as a Percentage of Male Earnings in Rural and Urban Areas**




*Sources:* ENAMIN 1992; Rural Survey 1994.

**Table 5.1 Characteristics of Urban Microenterprises (% of each column heading)**

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| *All MEs (% all MEs)* | 100 | 24 | 76 |
| *Sector of economic activity* | | | |
| Services | 45.6 | 33.9 | 49.2 |
| Trade | 34.8 | 51.7 | 29.4 |
| Manufacturing | 19.6 | 14.3 | 21.3 |
| *Reasons to enter ME sector*[a] | | | |
| Want to be independent | 40.5 | 21.4 | 46.5 |
| Family tradition | 8.5 | 6.8 | 9.0 |
| Complement family income | 23.4 | 57.0 | 12.9 |
| Get higher income than as a worker | 19.7 | 7.9 | 23.4 |
| Did not find salaried work | 11.6 | 5.5 | 13.4 |
| Flexible hours | 4.0 | 6.1 | 3.4 |
| Lost previous job | 2.6 | 0.7 | 3.1 |
| Other | 6.4 | 8.0 | 5.9 |
| *Main problem faced* | | | |
| Lack of clients | 35.0 | 32.8 | 35.7 |
| Lack of credit | 2.7 | 1.7 | 3.0 |
| Lack of economic resources | 6.3 | 7.7 | 5.9 |
| Low earnings | 10.2 | 11.9 | 9.7 |
| Problems with authorities | 2.5 | 2.1 | 2.6 |
| Excessive competition | 15.5 | 15.2 | 15.7 |
| Problems with workers/partners | 0.5 | 0.4 | 0.5 |
| Customers pay with delays | 3.8 | 4.2 | 3.7 |
| Merchandise, inputs, and raw materials | 0.8 | 0.6 | 0.9 |
| Other | 3.5 | 2.9 | 3.8 |
| No problem | 19.1 | 20.6 | 18.6 |
| *Future plans* | | | |
| Will not continue in business | 10.9 | 10.8 | 10.9 |
| Without important changes | 66.8 | 68.1 | 66.4 |
| Expanding line of products | 7.8 | 9.1 | 7.4 |
| Making new investments | 10.7 | 9.1 | 11.2 |
| Expanding number of employees | 1.4 | 0.2 | 1.7 |
| Other | 1.7 | 1.8 | 1.7 |
| Do not know | 0.7 | 0.8 | 0.7 |
| *Place of operation* | | | |
| Temporary establishment | 10.0 | 14.9 | 8.5 |
| Ambulant | 4.5 | 2.5 | 5.1 |

*(Table continues on the following page.)*

**Table 5.1** (continued)

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| Carts | 3.4 | 0.9 | 4.2 |
| Clients' home | 23.3 | 8.8 | 27.9 |
| At home | 17.4 | 32.7 | 12.5 |
| Without business premises | 0.8 | 0.5 | 0.9 |
| Fixed business premises | 34.2 | 39.4 | 32.5 |
| Transportation | 6.4 | 0.2 | 8.4 |
| *Owned fixed business premises* | | | |
| No | 83.5 | 77.7 | 85.3 |
| Yes | 16.5 | 22.3 | 14.7 |
| *Assets/workers (pesos)* | | | |
| Missing Value | 0.2 | 0.1 | 0.2 |
| 0–293 | 25.0 | 29.3 | 23.6 |
| 294–1,590 | 24.9 | 28.2 | 23.9 |
| 1,591–10,275 | 25.0 | 24.8 | 25.0 |
| 10,276–51,000 | 19.9 | 14.5 | 21.6 |
| Other | 5.0 | 3.2 | 5.6 |
| *Monthly income (pesos)* | | | |
| Missing value | 1.8 | 1.6 | 1.9 |
| 0–345 | 8.2 | 18.1 | 5.1 |
| 346–2,146 | 50.4 | 50.3 | 50.4 |
| 2,147–15,650 | 36.1 | 28.1 | 38.6 |
| Other | 3.6 | 1.8 | 4.1 |
| *Monthly profits (pesos)* | | | |
| Missing value | 2.5 | 2.1 | 2.7 |
| Negative | 4.3 | 5.0 | 4.1 |
| 0–387 | 20.1 | 38.9 | 14.2 |
| 388–802 | 24.3 | 24.2 | 24.3 |
| 803–1,440 | 24.4 | 14.9 | 27.4 |
| 1,441–2,733 | 14.6 | 8.9 | 16.4 |
| Other | 9.7 | 5.9 | 10.9 |
| *Age* | | | |
| Missing value | 0 | 0 | 0 |
| 12–32 | 25.5 | 24.9 | 25.7 |
| 33–41 | 25.0 | 25.6 | 24.8 |
| 42–52 | 25.0 | 26.0 | 24.6 |
| 53–68 | 19.7 | 18.7 | 20.0 |
| Other | 4.8 | 4.7 | 4.8 |
| *Years in operation* | | | |
| Missing value | 0 | 0 | 0 |
| 0–2 years | 31.1 | 42.4 | 27.5 |
| 2–5 years | 21.9 | 21.2 | 22.1 |

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| 5–12 years | 23.8 | 20.0 | 25.0 |
| 12–30 years | 19.7 | 13.9 | 21.5 |
| Other | 3.5 | 2.4 | 3.8 |
| *Number of workers (including owner)* | | | |
| 1 | 66.0 | 68.1 | 65.4 |
| 2–3 | 27.5 | 27.5 | 27.4 |
| 4–6 | 5.9 | 4.1 | 6.5 |
| 7–16 | 0.6 | 0.3 | 0.7 |
| *Monthly hours of operations* | | | |
| Missing value | 0.1 | 0.1 | 0.1 |
| 4–151 | 24.7 | 41.6 | 19.4 |
| 151–207 | 23.7 | 17.0 | 25.8 |
| 207–242 | 24.9 | 14.7 | 28.1 |
| 242–425 | 26.6 | 26.7 | 26.6 |
| *Type of accounting* | | | |
| Formal accounting | 23.1 | 19.7 | 24.1 |
| Income & expenses notebook | 6.6 | 8.0 | 6.2 |
| Personal notes | 19.8 | 22.3 | 19.0 |
| None | 50.5 | 49.9 | 50.6 |
| Other | 0.1 | 0 | 0.1 |
| Missing value | 0 | 0 | 0 |
| *Registered with SHCP* | | | |
| No | 57.9 | 58.5 | 57.7 |
| Yes | 42.1 | 41.5 | 42.3 |
| *Involuntary entry into self-employment* | | | |
| No | 86.1 | 93.8 | 83.7 |
| Yes | 13.9 | 6.2 | 16.3 |
| *Married* | | | |
| No | 30.2 | 49.2 | 24.2 |
| Yes | 69.8 | 50.8 | 75.8 |
| *Years of education* | | | |
| Missing value | 0.2 | 0.2 | 0.2 |
| 0 years | 8.1 | 10.6 | 7.3 |
| 1–3 years | 16.2 | 16.9 | 16.0 |
| 4–6 years | 33.8 | 35.6 | 33.3 |
| 7–9 years | 20.1 | 20.6 | 20.0 |
| 10–12 years | 8.4 | 7.6 | 8.6 |
| More than 12 years | 13.1 | 8.6 | 14.5 |

ME = Microenterprise.

a. Question allows for multiple responses.

*Source: Encuesta Nacional de Micronegocios* 1992.

**Table 5.2 Characteristics of Rural Microenterprises**
(% of each column heading)

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| *All MEs (% all MEs)* | 100 | 39 | 61 |
| *Sector of economic activity* | | | |
| Services | 27.0 | 31.8 | 24.0 |
| Trade | 43.9 | 51.8 | 38.7 |
| Manufacturing | 29.1 | 16.3 | 37.3 |
| *Place of operation* | | | |
| Temporary establishment | 7.2 | 8.6 | 6.4 |
| Ambulant | 4.7 | 4.1 | 5.0 |
| Carts | 0.6 | — | 1.0 |
| Clients' home | 13.0 | 10.1 | 14.9 |
| At home | 29.9 | 43.6 | 21.1 |
| Without business premises | 5.4 | 1.5 | 7.9 |
| Fixed business premises | 35.8 | 32.2 | 38.2 |
| Transportation | 3.4 | — | 5.6 |
| *Owned fixed business premises* | | | |
| No | 79.3 | 82.7 | 77.2 |
| Yes | 20.7 | 17.3 | 22.8 |
| *Assets/workers (1992 pesos)* | | | |
| Missing value | 3.1 | 4.5 | 2.1 |
| 0–293 | 37.0 | 44.2 | 32.5 |
| 294–1,590 | 27.2 | 27.1 | 27.3 |
| 1,591–10,275 | 22.1 | 16.7 | 25.5 |
| 10,276–51,000 | 10.3 | 7.3 | 12.2 |
| Other | 0.4 | 0.2 | 0.4 |
| *Monthly income (1992 pesos)* | | | |
| Missing value | 3.0 | 2.4 | 3.4 |
| 0–345 | 22.5 | 39.8 | 11.5 |
| 346–2,146 | 46.7 | 40.1 | 50.9 |
| 2,147–15,650 | 24.9 | 15.0 | 31.3 |
| Other | 2.9 | 2.8 | 3.0 |
| *Monthly profits (1992 pesos)* | | | |
| Missing value | 3.0 | 2.4 | 3.4 |
| Negative | 5.8 | 5.2 | 6.1 |
| 0–387 | 42.9 | 64.5 | 29.1 |
| 388–801 | 22.8 | 14.4 | 28.2 |
| 802–1,440 | 13.0 | 6.2 | 17.4 |
| 1,441–2,733 | 6.3 | 3.9 | 7.9 |
| Other | 6.2 | 3.4 | 8.0 |

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| *Age* | | | |
| 16–32 | 25.6 | 24.2 | 26.6 |
| 33–41 | 22.3 | 21.9 | 22.6 |
| 42–52 | 26.9 | 26.0 | 27.5 |
| 53–68 | 18.8 | 22.6 | 16.3 |
| Other | 6.3 | 5.3 | 6.9 |
| *Years in operation* | | | |
| Missing value | 0.8 | 0.4 | 1.1 |
| 0–2 years | 32.6 | 43.0 | 25.9 |
| 2–5 years | 23.3 | 24.0 | 22.9 |
| 5–12 years | 19.8 | 14.7 | 23.2 |
| 12–30 years | 17.7 | 15.6 | 19.1 |
| Other | 5.7 | 2.3 | 7.9 |
| *Number of workers (including owner)* | | | |
| 1 | 53.4 | 64.1 | 46.5 |
| 2–3 | 36.6 | 30.8 | 40.3 |
| 4–6 | 8.4 | 4.2 | 11.1 |
| 7–16 | 1.6 | 0.9 | 2.0 |
| *Type of accounting* | | | |
| Formal accounting | 22.3 | 17.8 | 25.2 |
| Income & expenses notebook | 3.2 | 5.1 | 2.0 |
| Personal notes | 18.2 | 16.8 | 19.1 |
| None | 55.8 | 59.4 | 53.5 |
| Other | 0.5 | 0.9 | 0.3 |
| *Registered with SHCP* | | | |
| No | 57.6 | 62.2 | 54.8 |
| Yes | 42.4 | 37.8 | 45.3 |
| *Marital status* | | | |
| Single | 13.9 | 18.8 | 10.7 |
| Married | 61.6 | 44.5 | 72.5 |
| Common-law marriage | 11.6 | 8.0 | 13.9 |
| Divorced | 1.0 | 2.5 | 0 |
| Separated | 4.0 | 8.1 | 1.3 |
| Widow(er) | 8.0 | 18.0 | 1.6 |
| *Married* | | | |
| No | 38.4 | 55.5 | 27.6 |
| Yes | 61.6 | 44.5 | 72.5 |
| *Education index* | | | |
| Illiterate | 14.5 | 22.2 | 9.5 |
| Did not go to school | 2.1 | 2.6 | 1.8 |

*(Table continues on the following page.)*

**Table 5.2** (continued)

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| Some primary | 31.6 | 33.2 | |
| 30.6Completed primary | 26.3 | 21.5 | 29.3 |
| Some secondary | 4.7 | 2.0 | 6.4 |
| Completed secondary | 11.0 | 11.4 | 10.7 |
| High school or college | 9.9 | 7.2 | 11.7 |
| *Years of education* | | | |
| 0 years | 16.6 | 24.8 | 11.3 |
| 1–3 years | 31.6 | 33.2 | 30.6 |
| 4–6 years | 26.3 | 21.5 | 29.3 |
| 7–9 years | 15.7 | 13.4 | 17.1 |
| 10–12 years | 5.5 | 3.7 | 6.7 |
| More than 12 years | 4.4 | 3.5 | 5.1 |
| *Ethnicity* | | | |
| Nonindigenous | 86.1 | 85.8 | 86.3 |
| Indigenous | 13.9 | 14.2 | 13.7 |

ME = Microenterprise.
*Source: Encuesta Regional de Sevicios Financieros a Unidades de Producción Rural* 1994.

important issues related to gender and the characteristics of microenterprises in both areas.

Most male-headed microenterprises are in either the service sector (urban areas) or trade (rural areas), whereas most female-headed microenterprises are in the trade sector. In rural areas, however, female participation is more evenly distributed across sectors, but it is somewhat higher in trade and manufacturing when compared to services. The trade sector includes anything related to the purchase or sale of goods, such as food and beverages, apparel, magazines, books, and shoes. The manufacturing sector includes nondurable goods such as food, textiles, apparel, leather, paper and printing, and miscellaneous goods, and durable goods such as furniture and fabricated metals.

In urban areas, almost half of male microenterprise owners indicated that the main reason to enter the sector was to become more independent, whereas 57 percent of female owners indicated that the main reason to enter the sector was to complement family income. This result points out the substantial gender differences in goals and, hence, potential profitability, of microenterprises. Interestingly, even though men and women enter the microenterprise sector for different reasons, both face the same problems: lack of clients, lower earnings, and excessive competition; and most do not have plans for any important changes in the near future as to how they conduct business.

Most female-owned microenterprises operate from home, although substantial urban–rural differences exist. In rural areas, about 44 percent of female-headed microenterprises (21 percent of male-headed enterprises) are home based, while in urban areas 33 percent of female-headed enterprises (13 percent of male-headed enterprises) are home based. The business location seems to be closely linked to the sector of economic activity and, thus, to earnings. The manufacturing sector, which has the lowest female-to-male earnings ratio, also has a disproportionate share of home-based microenterprises among female owners in both rural and urban areas (88 percent and 81 percent, respectively; Sánchez 1998).

Although there are no substantial gender differences in the age of the owner, female-headed microenterprises have been in business for an average of 6.7 years in both rural and urban areas. In contrast, male-headed microenterprises are relatively older, with 10.8 and 9.2 years of operation in rural and urban areas, respectively. The survival rate of microenterprises—particularly those owned by women—is lower in rural areas. In urban areas, only 36 percent of female-headed microenterprises (33 percent in rural areas) have been in business for more than five years, compared to 51 percent of male-headed microenterprises (50 percent in rural areas).

Most microenterprises are operated by the owner in both urban and rural areas (66 percent and 53 percent, respectively). In urban areas, the average number of workers (including the owner) in male-headed microenterprises is 1.65 and ranges from a high of two workers in manufacturing to a low of 1.47 in the service sector (Sánchez 1998). In rural areas, microenterprises are a stronger source of employment generation—male- and female-headed businesses employ, on average, 2.11 and 1.59 workers, respectively.

In urban areas, microenterprises owned by women operate seven hours less per week than those owned by men.[1] Moreover, this gender disparity in hours of operation greatly differs across economic sectors (Sánchez 1998). In addition, about two fifths of microenterprises are registered with the *Secretaría de Hacienda y Crédito Público*. Gender differences in being registered with tax authorities arise only in rural areas, where 37.8 percent of female-owned microenterprises are registered compared to 45.3 percent of male-owned enterprises.

Gender disparities in educational attainment are greater in rural than in urban areas. About 25 percent of female rural entrepreneurs have not received any formal education compared to 11 percent in urban areas. In the case of men, however, about 11 percent of rural entrepreneurs do not have formal schooling compared to 7 percent in urban areas. Thus, urban–rural differentials are substantially greater among female than among male entrepreneurs. See Box 5.1 for a discussion of gender earnings differentials in the microenterprise sector, and Box 5.2 for a discussion of the role of the microenterprise sector in economic activity.

## Box 5.1 Gender Earnings Differentials in the Microenterprise Sector

Earnings differentials between male and female microenterprise owners are a result of gender differences in both observable and unobservable factors.[2] Male–female differences in earnings can arise from, for example, differences across gender in the number of employees, capital, level of formality, firm life, human capital variables, market conditions, and household demographics. Moreover, the market return to each of these characteristics could also play a role in explaining gender differences in earnings.

Market returns also capture unobservable factors, such as entrepreneurial ability. Male–female differences in entrepreneurial ability might result in differential returns to human and physical capital (Maloney and Cunningham 1997). Further, differences in entrepreneurial ability influence the success of microenterprises, and, thus, their size (Lucas 1978). Therefore, if self-employed women have lower levels of entrepreneurial ability, then their microenterprises are likely to be smaller and their earnings lower than those of men.

Unobservable factors work their way through affecting the demand and supply of microenterprises. Labor market distortions—which influence demand—and gender-based household responsibilities—which influence supply—might also explain differing returns to measurable characteristics. For example, if women are unable to get salaried work because of employer discrimination or because of household responsibilities, then those who are not entrepreneurially talented might be forced into self-employment. Their entrance into this sector in turn reduces the mean earnings of self-employed women. Indeed, using the same rural survey in Mexico, Pagán and Sánchez (2000) found that structural supply and demand factors—such as differences in employment preferences, employer discriminatory behavior, and household constraints—induce women into self-employment.

The need to balance home and market responsibilities—which affects labor supply—is a major constraint on productivity and earnings (Blau 1998; Pagán and Sánchez 2000; Chapters 1, 2, and 6 this volume). Family responsibilities have a direct effect on earnings by reducing the amount of energy and effort available to devote to income-generating activities (Hersch 1991). Because household responsibilities generally have predetermined schedules, women's microenterprises are more likely to be home based. This arrangement allows them to have greater flexibility in hours worked, although at the expense of a lower growth rate and earnings than those firms with fixed business premises. On the other hand, accommodating work schedules might lead to lower earnings as a result of compensating wage differentials arising from favorable working conditions that allow women to combine family and job responsibilities.

Further, women and men might have different goals with respect to microenterprise activity, which influences their business strategies and, thus, their earnings. For example, many women select self-employment to

supplement family income and reduce risk (Rhyne and Holt 1994; Rothstein 1995). Thus, a woman might engage in low-risk, low-return activities to provide her family with a stable source of income. In fact, in Mexico's urban areas, 57 percent of women enter the microenterprise sector to supplement family income, while 47 percent of men go into self-employment out of their desire to become independent (Table 5.1). Further evidence of gender differences in risk preferences is evident when respondents were asked the reasons for not requesting a loan. About 45.3 percent of women in urban areas did not see a need to seek credit compared to 44 percent of men. Moreover, 27.2 percent of women prefer to use their own resources instead of resorting to credit compared to 25.2 percent of men.

Finally, credit constraints might be an important impediment to microenterprise growth (Evans and Jovanovic 1989; Rhyne and Holt 1994). The presence of credit constraints affects the ability of business owners to smooth consumption over time and undertake profitable investments. Thus, the investment behavior of microenterprises—and, therefore, their growth and earnings potential—might be restrained by limited access to credit services (Tybout 1983; Nabi 1989).

In the urban areas surveyed, about 12 percent of all microenterprises have received a loan since starting their businesses. However, in rural areas only 45 percent of women have received some type of consumption–production financing during the two years prior to the interview compared to 56 percent of men (see Sánchez 1998). This shrinking difference is explained by differences in the questions regarding access to financial services between the two surveys.

## Box 5.2 The Role of the Microenterprise Sector in Economic Activity

Another important source of differences in the gender earnings gap is whether women are relatively segregated into low-profit-margin sectors. If female-headed microenterprises are overrepresented in low-profit-margin sectors and underrepresented in high-profit-margin sectors, then part of the gender earnings gap could be attributed to male–female differences in sectoral distributions.

Gender disparities in sectoral distributions can be analyzed by using the index of dissimilarity (or Duncan Index), which equals $0.5\Sigma_j | PjF - PjM |$ (Psacharopoulos and Tzannatos 1992). PjF and PjM represent the proportion of females and males in the jth economic sector. The index compares the sectoral distribution across gender: if men and women were equally distributed across sectors, the index would equal zero; if all sectors were

*(Box 5.2 continues on the following page.)*

## Box 5.2 (continued)

completely dominated by one gender, the index would equal 100 percent. Using a detailed sectoral classification, the estimated Duncan Index is about 51 percent, which suggests a high level of gender segregation across sectors.

Differences between men and women on sectoral choices are likely to be influenced by many different factors: individual preferences, barriers to entry and discrimination, gender differences in household responsibilities, initial sector-specific investment requirements, and gender differences in business skills. In addition, premarket factors—such as differential treatment by parents and schools, and gender differences in educational access and business experience—also channel entrepreneurial women into confined economic sectors. As such, it is not surprising to find that female-headed microenterprises concentrate primarily in economic sectors associated with household activities, such as food processing or domestic services (World Bank 1994).

Figure 5.1 suggests that across broadly defined sectors, women earn substantially less than men. In urban areas, the female-to-male earnings ratio is the lowest in manufacturing (30 percent), followed by trade (54 percent) and services (58 percent). In rural areas, the gender earnings ratio is also the lowest in manufacturing (25 percent), followed by trade (30 percent) and services (55 percent). Thus, in terms of relative earnings women fare better in the sectors where they are better represented—such as services and trade—than in productive sectors with a low female participation, such asmanufacturing. This actually shows a certain degree of selectivity in terms of the sectors where women are employed; that is, female entrepreneurs tend to concentrate in productive sectors where the gender earnings differential is relatively small.

Given the discussion above, any meaningful analysis of gender earnings differentials should consider the role of both intra- and intersectoral factors in explaining the causes for the male–female disparities in earnings. Understanding the role of inter- and intrasectoral factors has important implications for policymaking in the sense that this type of analysis allows us to assess whether policies should concentrate on gender parity in earnings within each sector, or on redistributing self-employed individuals (or redirecting potentially self-employed individuals) across sectors.

## Decomposition Analysis of Gender Differences in Earnings: Methodology

To analyze the role of inter- and intrasectoral factors on gender earnings differentials, the Brown, Moon, and Zoloth (1980a, 1980b) decomposition technique can be employed. Brown, Moon, and Zoloth extended the Oaxaca (1973) earnings decomposition to account for endogenous selection of occupations in the wage-and-salary sector. This methodology has two attractive features that are helpful in identifying the sources of gender earnings differentials. First, the method takes into account that gender differences in sectoral distributions could result from barriers to entry into certain sectors (for example, minimum capital investments or household responsibilities), and it allows for the endogenous determination of the sectoral distribution. Second, the technique takes into account that differences in characteristics vary across economic sectors and, hence, that they play an important role in explaining male–female differences in earnings.

The decomposition involves two steps. First, a multinomial logit model of sectoral choice is estimated for men and then the estimated coefficients are used to predict the sectoral distribution of women. Second, sector-specific log earnings equations are estimated to be able to decompose the earnings gap into inter (across) and intra (within) sectoral factors. Both the multinomial logit model and the log earnings regressions include controls for factors that affect sectoral choice and earnings, namely socioeconomic status, personal characteristics, household demographics, business opportunities in the region, and individual preferences (see Sánchez 1998 for details).

After estimating the econometric models discussed above, the gender earnings gap in urban and rural areas is separated into four components. The first component is the explained or justified intrasectoral gender earnings gap—explained in the sense that it captures gender earnings differentials attributed to male–female differences in both owners' human capital and microenterprise characteristics. The second component is the unexplained or unjustified intrasectoral gender earnings gap—the portion of the gap that can be attributed to differences in male–female compensation for a given set of personal characteristics, and keeping the sectoral distribution constant. The term captures differences in productivity between men and women, unobservable variables, and discrimination. For example, if female-headed microenterprises face greater growth constraints, this component will capture their lower access to markets, networks, technology, and credit. The term also captures gender discrimination in earnings within each sector.

The third and fourth components capture the part of the gender earnings gap that can be attributed to explained and unexplained

male–female differences in the sectoral distributions. If male and female entrepreneurs differ only on their sectoral distributions, then the third term captures the effect of differences in the values of characteristics between men and women on their sectoral distributions (explained). The fourth term represents the effect of gender-specific preferences for the economic sector—and barriers to entry and discrimination in access to specific sectors—on the gender earnings gap. See Box 5.3 for a discussion of the results of the analysis of gender differences in earnings.

### Box 5.3 Results of Decomposition Analysis of Gender Differences in Earnings

Microdata from the 1994 Survey of Rural Entrepreneurs and Financial Services and the 1992 National Survey of Urban Microenterprises were used to analyze the sources of the gender earnings gap. The explanatory variables used in the analysis can be grouped into three categories:

- *Microenterprise characteristics*: Years in operation, number of hours worked (only for urban areas),[3] number of workers, capital endowments, place of operation, registration with the *Secretaría de Hacienda y Crédito Público*, and involuntary entry into the microenterprise sector (only for urban areas).

- *Personal characteristics of the owner*: Marital status, years of education, ethnicity (only for rural areas), and potential labor market experience (defined as age minus years of education minus six).

- *Market conditions*: Number of inhabitants in the locality of residence (only for rural areas).

The intermediate results from estimating sector-specific earnings equations are not reported here, but suffice it to say that the coefficients of the variables have sensible signs and that the specification employed has a reasonable explanatory power (that is, the regressors explain from 33 to 50 percent of the total variation in earnings in the sector-specific regressions).

The results from these estimations are consistent with other human capital studies: years of formal education have a positive impact on earnings, although substantial differences appear across economic sectors. Owners in manufacturing have the lowest return to schooling in urban areas and they are even negative for males in the rural areas studied. For urban microenterprises, earnings increase with experience but at a decreasing rate; however, for rural microenterprises, experience is statistically insignificant.

Earnings are also positively related to the number of hours worked, especially for female owners in urban areas. Microenterprise owners that have been in business longer have higher earnings, particularly males. This finding might be a result of firm age serving as a proxy for an efficient scale of operations. The number of workers in the firm is positively related to earnings, especially among microenterprises in the trade sector.

Involuntary entry into the microenterprise sector comes at a substantial reduction in earnings among urban microenterprises.[4] The estimated percentage reduction in earnings due to involuntary entry is about 17 percent. Married male owners have an earnings premium across all sectors, especially in urban areas. This premium ranges from 8 percent in manufacturing to 21 percent in services. In rural areas, the marriage premium is only statistically significant for female owners in the service sector (51 percent). Interestingly, among rural microenterprises, market conditions—proxied by the size of the locality—do not seem to be related to earnings.

Tables 5.3 and 5.4 present the results from the earnings decomposition for urban and rural microenterprises. The gender earnings differential is about 0.7012 log-points for the urban sample, and 1.0177 for the rural sample; that is, the average female-to-male earnings ratio is 50 percent for urban areas, and 36 percent for rural areas. The main findings from the decomposition are that intersectoral factors explain a relatively small proportion of the earnings gap: about 3.2 percent and –1.1 percent in urban and rural areas, respectively. This finding indicates that efforts to reallocate female-headed microenterprises would not significantly increase their mean overall earnings. Hence, policies that attempt to increase women's earnings within an economic sector would be far more successful than the reallocation of workers into different sectors.

Most of the gender earnings gap can be explained by intrasectoral factors—about 96.9 percent in urban areas and 101.1 percent in rural areas.[5] Thus, policymakers should consider sector-specific policies to reduce gender disparities in earnings.

Differences in productive and personal characteristics are more important in explaining the male–female earnings gap in rural than in urban areas. Among urban microenterprises, about 35 percent of the earnings gap is explained by differences in personal characteristics, whereas in the rural areas studied, this component explains almost 42 percent of the overall earnings gap.

Male–female differences in returns to factors (explanatory variables) explain 62 percent of the earnings gap in urban areas and 59 percent in rural areas. Among urban microenterprises, this component fluctuates from a low of 60 percent to a high of 68 percent. In the rural areas studied, the service sector has the largest size of this component—about 68 percent. The magnitude of this component illustrates that unobservable factors—such as discrimination, competition, entrepreneurial ability, credit supply con-

*(Box 5.3 continues on the following page.)*

**Box 5.3** (continued)

straints, differential attitudes toward risk, and women's reproductive responsibilities—are responsible for a large share of the gender earnings gap.

It is interesting to note that the magnitude of the unexplained component of the gender earnings gap is lower in Mexican microenterprises than the magnitude found in typical labor studies of male–female differences in earnings in Latin America.[6] However, the results are more in line with those of gender pay studies for industrialized countries (Psacharopoulos and Tzannatos 1992). Parker (1995) found an unexplained gender earnings gap of about 75 percent for the self-employed—which would include most microenterprises—and from 88 to 131 percent for salaried workers in the major urban areas of Mexico during 1986–92. She also finds that this unexplained gap increased from 1986 to 1992 and suggests that this could be due to rising labor market discrimination for women. In another important study, Duval Hernández (1999) argues that lack of access to flexible employment opportunities has forced women to accept full-time employment, optimize their time, and, thus, be very productive in both market and nonmarket activities. This could partially explain why the unexplained component of earnings is somewhat small in Mexico when compared to other Latin American countries.

In all, the empirical results indicate that gender earnings differentials in the microenterprise sector are largely due to the fact that men's microenterprises are bigger than women's in each economic sector, and have differential constraints to profitability. Gender differences in sectoral distribution account for a small share of the gender earnings gap in both rural and urban areas.

## Gender Differences in Credit Access

One of the main findings from the earnings decomposition discussed in Box 5.3 is that men and women face differential constraints that affect profitability and earnings. For example, male-headed microenterprises are relatively larger and more profitable than those headed by females.

Lack of access to credit services has been identified as one of the most important impediments to microenterprise growth (Evans and Jovanovic 1989; Rhyne and Holt 1994). The presence of credit constraints affects the ability of microentrepreneurs to smooth consumption over time and undertake profitable investments. As such, the investment behavior of microenterprises—and, therefore, their growth potential—could be restrained by limited access to credit services (Tybout 1983; Nabi 1989).

**Table 5.3 Urban Microenterprises: Male–Female Earnings Decomposition (with hours worked)**

| | *All sectors* | *%* | *Services* | *Commerce* | *Manufacturing* |
|---|---|---|---|---|---|
| *Decomposition of male–female earnings differential by economc sector (in log-points)* | | | | | |
| Average Earnings | | | | | |
| Male | 6.8260 | | 6.8364 | 6.7567 | 6.8952 |
| Female | 6.1251 | | 6.2869 | 6.1347 | 5.7027 |
| Male–female earning differentials | 0.7009 | | 0.5495 | 0.6220 | 1.1925 |
| Attributed to differences in: | | | | | |
| Explanatory variables (Xs) | | | 0.2163 | 0.1992 | 0.4796 |
| Estimated parameters (unexplained) | | | 0.3332 | 0.4227 | 0.7129 |
| *Decomposition of male-female earnings differential (in log-points)* | 0.70127 | | | | |
| Intra-sectoral earnings effect | 0.6790 | 96.9 | | | |
| Attributed to differences in: | | | | | |
| Explanatory variables (explained) | 0.2455 | 35.0 | 0.0747 | 0.1018 | 0.0690 |
| Estimated parameters (unexplained) | 0.4336 | 61.9 | 0.1150 | 0.2160 | 0.1025 |
| Intersectoral earnings effect | 0.0222 | 3.2 | | | |
| Attributed to differences in: | | | | | |
| Explanatory variables (explained) | 0.0026 | 0.4 | –0.1882 | –0.0506 | 0.2414 |
| Estimated paramters (unexplained) | 0.0196 | 2.8 | 1.2282 | –1.4701 | 0.2615 |
| *Actual and predicted sectoral distribution of microenterprises (in percentages)* | | | | | |
| Females | | | | | |
| Predicted | | | 52.5% | 29.3% | 18.2% |
| Actual | | | 34.5% | 51.1% | 14.4% |
| Males | | | | | |
| Actual | | | 49.7% | 28.6% | 21.7% |

## Table 5.4 Rural Microenterprises: Male–Female Earnings Decomposition

| | *All sectors* | *%* | *Services* | *Commerce* | *Manufacturing* |
|---|---|---|---|---|---|
| *Decomposition of male–female earnings differential by economc sector (in log-points)* | | | | | |
| Earnings | | | | | |
| Male | 6.3886 | | 6.1131 | 6.6502 | 6.2927 |
| Female | 5.3709 | | 5.5221 | 5.4611 | 4.9116 |
| Male–female earning differentials | 1.0177 | | 0.5910 | 1.1892 | 1.3810 |
| Attributed to differences in: | | | | | |
| Explanatory variables (explained) | | | 0.6013 | 0.3052 | 0.4076 |
| Estimated parameters (unexplained) | | | –0.0103 | 0.8840 | 0.9734 |
| *Decomposition of male–female earnings differential (in log-points)* | 1.01767 | | | | |
| Intrasectoral earnings effect | 1.0284 | 101.1 | | | |
| Attributed to differences in: | | | | | |
| Explanatory variables (explained) | 0.4245 | 41.7 | 0.2004 | 0.1421 | 0.0821 |
| Estimated parameters (unexplained) | 0.6039 | 59.3 | –0.0034 | 0.4115 | 0.1958 |
| Intersectoral earnings effect | –0.0107 | –1.1 | | | |
| Attributed to differences in: | | | | | |
| Explanatory variables (explained) | 0.0152 | 1.5 | –0.2424 | 0.1506 | 0.1070 |
| Estimated paramters (unexplained) | –0.0259 | –2.5 | –0.3811 | –0.6905 | 1.0457 |
| *Actual and predicted sectoral distribution of microenterprises (in percentages)* | | | | | |
| Females | | | | | |
| Predicted | | | 27.1% | 36.2% | 36.7% |
| Actual | | | 33.3% | 46.6% | 20.1% |
| Males | | | | | |
| Actual | | | 23.1% | 38.4% | 38.4% |

Tables 5.5 and 5.6 report some basic indicators on the participation of urban and rural microenterprises in credit markets. In analyzing the sources of start-up funding, most microenterprises—especially those located in rural areas—rely mainly on the owner's personal wealth. Potential entrepreneurs might face liquidity constraints and would therefore need to accumulate capital before initiating their entrepreneurial activities (Evans and Jovanovic 1989). Some microenterprise owners—particularly men—use savings from their previous employment to start operations.

A key finding from the surveys is that owners who are able to obtain start-up capital generally do so from informal lenders (moneylenders, friends and relatives, input credit, and other sources). Unlike male owners, female owners are more likely to draw funds from family and

**Table 5.5 Urban Microenterprises: Participation in Credit Markets**

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| *All MEs (% all MEs)* | 100 | 24 | 76 |
| *Have received credit since starting operations from*[a] | | | |
| Formal lenders | 5.0 | 3.5 | 5.5 |
| Banks | 4.3 | 2.6 | 4.9 |
| *Cajas de ahorro* | 0.7 | 0.8 | 0.7 |
| Informal lenders | 7.4 | 8.8 | 6.9 |
| Friends and relatives | 3.0 | 3.3 | 2.9 |
| Moneylenders | 0.8 | 0.9 | 0.8 |
| Supplier credit | 3.3 | 4.7 | 2.8 |
| Other | 0.4 | 0.1 | 0.4 |
| *Have not requested credit because* | | | |
| Prefer to use own resources | 25.7 | 27.2 | 25.2 |
| High interest rates | 6.9 | 7.1 | 6.8 |
| Too many requirements | 5.5 | 3.8 | 6.0 |
| Do not know how to obtain credit | 2.4 | 1.9 | 2.5 |
| Do not know that credit exists | 0.4 | 0.2 | 0.4 |
| Other | 1.2 | 1.5 | 1.1 |
| Have not needed credit | 44.3 | 45.3 | 44 |
| *Have requested and did not receive it* | 1.7 | 1.1 | 1.9 |

*(Table continues on the following page.)*

**Table 5.6** (continued)

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| *Have used credit to*[a] | | | |
| Buy business premises | 1.2 | 0.3 | 1.5 |
| Repair premises or vehicles | 1.5 | 0.6 | 1.7 |
| Expand premises | 0.4 | 0.3 | 0.4 |
| Buy inputs or merchandise | 7.3 | 9.4 | 6.7 |
| Pay debts | 0.5 | 0.6 | 0.5 |
| Buy equipment | 1.4 | 1.2 | 1.5 |
| Buy tools | 0.5 | 0.1 | 0.6 |
| Consumption | 0.4 | 0.4 | 0.4 |
| Other | 0.3 | 0.2 | 0.3 |
| *Source of funds to start up*[a] | | | |
| Formal lenders | 2.3 | 1.8 | 2.4 |
| Banks | 1.7 | 1.5 | 1.8 |
| *Cajas de ahorro* | 0.5 | 0.4 | 0.6 |
| Informal lenders | 22.9 | 30.6 | 20.4 |
| Friends and relatives | 17.4 | 23.9 | 15.3 |
| Moneylenders | 1.8 | 2.1 | 1.8 |
| Credit from clients | 0.7 | 0.6 | 0.7 |
| Credit from suppliers | 3.4 | 4.6 | 3.0 |
| Own resources | 57.2 | 51.7 | 58.9 |
| Personal savings | 50.7 | 46.9 | 52.0 |
| Liquidation from previous employment | 5.4 | 2.2 | 6.4 |
| Other | 2.3 | 3.6 | 1.9 |
| Did not need it | 22.8 | 20.2 | 23.6 |

a. Question allows for multiple responses.
*Source: Encuesta Nacional de Micronegocios* 1992.

**Table 5.6 Rural Microenterprises: Participation in Credit Markets (% of each column heading)**

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| *All MEs (% all MEs)* | 100 | 39 | 61 |
| *Have received credit during the previous two years from*[a] | | | |
| Formal lenders | 6.1 | 2.2 | 8.6 |
| Banks | 2.7 | 0.9 | 3.8 |
| Development banks | 0.4 | | 0.6 |

| | *All MEs* | *Female* | *Male* |
|---|---|---|---|
| *Cajas de ahorro*, UC, and SAP | 3.3 | 1.3 | 4.5 |
| Informal lenders | 48.9 | 44.1 | 51.9 |
| Moneylenders | 5.2 | 3.9 | 6.0 |
| Friends and relatives | 10.0 | 7.4 | 11.7 |
| Trader | 0.7 | 0.9 | 0.6 |
| Commercial credit | 36.2 | 34.8 | 37.0 |
| Sales with advances | 6.5 | 4.5 | 7.8 |
| None | 48.3 | 55.5 | 43.7 |
| *Market for cash loans* | | | |
| Received | 21.2 | 14.3 | 25.6 |
| Both sectors | 0.6 | | 1.0 |
| Formal sector only | 5.6 | 2.2 | 7.7 |
| Informal sector only | 15.1 | 12.1 | 17.0 |
| Rejected | 2.1 | 1.5 | 2.6 |
| Did not apply because | 76.7 | 84.2 | 71.8 |
| Would not be approved | 7.7 | 8.4 | 7.3 |
| Many requirements | 9.2 | 6.6 | 10.9 |
| Afraid to request | 8.2 | 8.9 | 7.7 |
| Do not need credit | 26.2 | 29.4 | 24.2 |
| Too risky | 19.3 | 23.4 | 16.6 |
| Other | 5.9 | 7.6 | 4.9 |
| Missing value | 0.2 | | 0.3 |
| *Source of funds to start up*[a] | | | |
| Formal lenders | 2.9 | 0.8 | 4.2 |
| Banks | 1.0 | 0.8 | 1.1 |
| *Cajas de ahorro* | 1.9 | | 3.1 |
| Informal lenders | 18.6 | 22.3 | 16.2 |
| Friends and relatives | 11.9 | 16.6 | 8.9 |
| Moneylenders | 0.4 | | 0.6 |
| Credit from clients | 0.8 | 0.5 | 1.1 |
| Credit from suppliers | 5.9 | 5.7 | 6.0 |
| Own resources | 65.4 | 56.7 | 70.9 |
| Personal savings | 56.2 | 50.4 | 59.9 |
| Liquidation from previous employment | 4.5 | 1.3 | 6.6 |
| Sale of assets | 1.3 | 0.9 | 1.6 |
| Other | 6.5 | 7.0 | 6.3 |
| Did not need it | 19.9 | 23.6 | 17.5 |

a. Question allows for multiple responses.
*Source: Encuesta Regional de Servicios Financieros a Unidades de Producción Rural* 1994.

friends. In urban areas, about 24 percent of female and 15 percent of male owners borrowed from friends and relatives to initiate their business. Loans from family and friends—which are at zero nominal interest—are basically granted because of altruistic or mutual insurance motives across households. Thus, it is likely that family and friends support women's entrepreneurial interests because they mostly initiate their activities to supplement household income.

Overall, only 2 to 3 percent of microenterprises borrow from formal lenders (commercial banks and *cajas de ahorro*) to start their operations. Formal lenders usually view lending to start-up microenterprises as a risky activity because it is difficult to assess their viability and the owner's entrepreneurial ability and creditworthiness. Moreover, most microenterprises have a relatively short life span, which significantly contributes to sectoral riskiness.

Tables 5.5 and 5.6 also report the main sources of credit, the reasons why some business owners have not requested credit, and the reasons for and purpose of requesting credit. First, note that microenterprises in both urban and rural areas participate in credit markets only to a limited degree and operate almost in financial autarky, reflecting the poor development of formal and informal financial markets. In urban areas, only 12 percent of male- and female-headed microenterprises have received a loan since starting their activities, and only 13 percent have applied for a loan. Compared to other Latin American countries, microenterprise participation in credit markets is much lower in Mexico. For example, the reported use of credit services in Costa Rica, the Dominican Republic, Guatemala, and Honduras ranges from 20 percent to 68 percent (see Table 5.7).

In urban areas, 7.4 percent of microenterprises borrowed from informal lenders and 5 percent borrowed from formal lenders. Thus, Mexican informal urban credit markets seem rather underdeveloped. Almost the same number of urban microenterprises received loans from formal and informal lenders, in contrast to other developing countries where the number of microenterprises or households receiving loans from informal sources is 2 to 16 times higher than those from formal lenders.

Male-headed microenterprises are more likely to borrow funds from formal lenders than their female counterparts, while female-headed microenterprises participate more actively in informal credit markets than their male counterparts. These male–female differences in the choice of lender might reflect gender-specific differences in the demand and supply of credit. For example, if female-headed microenterprises demand smaller loans than male-headed microenterprises—perhaps as a result of being in small-scale production—then informal lenders might be able to better meet their credit needs than formal lenders.

**Table 5.7 Credit Market Participation across Selected Latin American Countries**

| | *% of microenterprises* | | |
|---|---|---|---|
| | *All* | *Women* | *Men* |
| Mexico, 1992[a] | 12.1 | 12.0 | 12.1 |
| Mexico, 1994[a] | 13.8 | | |
| Mexico, 1996[a] | 13.2 | | |
| Rural Mexico, 1994[b] | 51.8 | 44.5 | 56.4 |
| Dominican Republic, 1992[c] | 20.7 | 16.5 | 21.2 |
| Honduras, 1996 | 15.0 | | |
| Valle Central, Costa Rica, 1993[d] | 67.5 | | |

*Sources:*
a. National Survey of Microenterprises 1992, 1994, 1996.
b. Sánchez (1998).
c. Cabal (1993).
d. Chaves and Sánchez (1995).

There are no substantial male–female differences in reasons for not requesting credit. Almost half of owners in urban areas report that they have not needed credit within the past two years, and about one fourth prefer to use their own resources instead of borrowing. Loan rejection rates are also relatively low (1.1 percent for females and 1.9 percent for males), and most have used credit to buy inputs or merchandise, particularly female-headed microenterprises.

Rejection rates on cash loans are relatively low in the rural areas surveyed—1.5 percent for females and 2.6 percent for males. Interestingly, about 23 percent of females and 16.6 percent of males did not apply for cash loans because they deemed this type of activity too risky. This finding is consistent with the idea that, unlike males, females enter the microenterprise sector to complement family income and, as such, are more interested in having a steady source of income than in undertaking high-risk, high-return activities.

## Conclusion

Microenterprises are particularly active in both rural and urban areas of Mexico, and they substantially contribute to household earnings, employment creation, and overall economic growth. There are significant gender differences in earnings in the microenterprise sector, particularly in the rural areas studied. Because women are particularly active in this

sector, reducing gender disparities can potentially increase their ability to increase household income.

The results from decomposing the gender earnings gap suggest that the most effective policies are those that attempt to reduce male–female earnings disparities within each economic sector (for example, encouraging diversification into nontraditional activities within each sector of economic activity). Two aspects are important here: first, reducing the unequal gender distribution of productive characteristics, and second, eliminating differential growth constraints that influence returns to productive and personal characteristics. The results also indicate that efforts to reallocate and redirect women into targeted economic sectors are not likely to be effective in reducing the gender earnings gap in both rural and urban areas.

Public policies that are consistent with reducing gender differences in productive characteristics include broad-based education and training programs for women—both formal and informal—since formal education and training systems are the main avenues to prepare successful entrepreneurs through the acquisition of basic business and literacy skills. In addition, access to formal and informal education expands individuals' choices, increases their capacity to respond to market opportunities, and increases their productivity.

The provision of direct enterprise development efforts can also increase and facilitate entrepreneurial activities, although they cannot substitute for adequate macroeconomic conditions, infrastructure, and business environment. Such services should assist microenterprises in managing their business more effectively, increasing their access to information and technology, and managing risk (USAID 1995). However, the development of nonfinancial assistance methodologies remains somewhat unexplored. Some basic principles to design successful strategies to provide nonfinancial services are to charge market prices (recovery costs), be customer oriented, be market driven, work within specific sectors, and deliver services in a timely fashion (USAID 1995).

Because differences in returns to productive individual characteristics explain a substantial portion of the gender earnings gap, strategies dealing with getting at the source of gender differences in the returns to personal characteristics within each economic sector could have a desirable long-term impact in increasing the earnings of female entrepreneurs. The findings point out the need to examine differential firm growth constraints across gender. Excess reliance on informal lending by female-headed urban microenterprises is certainly indicative of gender-specific market constraints in credit access. However, this result does not arise in rural areas. Gender differences in the type of credit needs of microenter-

prises could also help explain why female-owned enterprises stabilize at a smaller size of operation than male-owned enterprises.

Most constraints to entrepreneurship result from the business environment and macroeconomic conditions in which microenterprises operate. Public policy should promote a business environment in which microenterprises can enforce contracts and have lower costs of accessing professional services, output and input markets, information, training, and technology. De Soto (1989) argues that many firms operating outside formal institutions are willing to pay to become formal, but that excessive transaction costs and bureaucracies keep them outside of the formal economy. By increasing the participation of microenterprises in the institutions of civil society—such as federal and local treasuries, social security, and the legal system—microenterprises can augment their productivity and growth potential as their participation becomes increasingly important in the development process (Levenson and Maloney 1997). The overall impact of these policies is that they increase competition and thereby reduce the potential of gender-based discrimination in access and opportunities in the microenterprise sector.

Gender roles within the family might also be a fundamental source of distinct male–female structural barriers to economic parity which influence women's work, productivity, and earnings (Blau 1998). Although changing gender roles within the household might not be feasible in the short term, it is certainly feasible to explore best practices that raise women's social and intrahousehold status, and which could eventually have a positive impact on profitability and growth. For example, providing community-based childcare reduces structural barriers to male–female economic parity because it leads to more time available for market-based activities.

Microenterprises—both male- and female-owned—need access to a broader range of financial services to manage risk better, finance investment, keep the business afloat when cash flow is tight, exploit profitable opportunities, and smooth household consumption. Hence, financial services are seen as a tool for greater efficiency and productivity, which would have an impact on reducing the gender earnings gap.

Finally, given data limitations, the analysis centered only on disentangling gender disparities in earnings across three broadly defined sectors—manufacturing, trade, and services. As such, the finding that the most effective policies to reduce gender disparities in earnings do not include redistribution across sectors could be due partly to aggregation bias. Nonetheless, the results are a reasonable first approximation of the role that sectoral gender differences have in explaining male–female outcomes in relative earnings.

## Notes

1. Unfortunately, hours of operations were not asked in the rural survey.

2. Earnings are measured as the difference between gross earnings and operating costs; that is, they are net earnings.

3. An important limitation of the rural survey is that the number of hours worked is not available. Thus, the decomposition results overestimate the unexplained portions of the intrasectoral and intersectoral components.

4. This variable is not available for the rural survey.

5. The intra- and intersectoral factors must add up to 100 percent; however, each one can be larger than 100 percent if the other is negative.

6. An exception to this result is the study by Valdez Moreno (1997), who finds that the unexplained gender earnings gap is only 30 percent in Monterrey, Mexico.

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